

# ADVISOR FOR THE MOTORIST

by **ALBERT L. CLOUGH**  
Editor Motor Service Bureau Review of Reviews

The following suggestions, if consistently followed, will tend to make a motor car engine give satisfactory service for a longer period and diminish the repairs and adjustments required by it. In the case of a new engine, fresh from the factory, avoid driving it at more than one-third or one-half full speed and also at full throttle for long periods during its first 1,000 miles of service. Always use the best oil obtainable and renew the supply before it has deteriorated noticeably through use. Consult the oil pressure or flow indicator frequently, so that any failure of the oil supply may be noticed before damage has been done. Clean the oil strainer, and flush out oil distribution passages with kerosene frequently.

Remember that perfect lubrication is the most important factor in securing long service from an engine. Don't run an engine fast or hard, when it is cold that the oil has thickened. Do not allow overheating from lack of circulating water to occur, as the pistons may scratch the cylinder through the very much thinned oil and do not fill the cooling system with water until the cylinder block has cooled. Avoid freezing of the cooling water, as it usually causes cracking of the cylinder walls or jackets.

Never allow an engine to run idle at a speed high enough to make it noisy or vibrate noticeably. Bear in mind that, when racing, all the power developed is expended in wearing the engine out. Do not let an engine run unreasonably fast on a low gear, on a level road, as this amounts practically speaking to racing it idle, the load upon it being very light. Refrain from running long distances with an engine that is missing explosions, especially if the "going is hard," for the powerful, unsteady speed impulses pound out the bearings and stress the moving parts abnormally.

For a somewhat similar reason, no engine, any of the moving parts of which are loose, should be operated because instead of the reasonable pressures that normally act between the working parts, there are destructive forces which cause rapid wear of bearings and stresses which may lead to the breaking away of parts from their fastenings and the wrecking of the whole engine. Fortunately, the looseness of parts makes itself known by rattling noises and it is imperatively necessary that such noises be heeded, and the required adjustments promptly made.

One who habitually drives an engine at top speed need expect to obtain maximum length of service from it. Not only is the engine worn out, but the mileage can be secured from an engine that is rarely run at above half speed as from the same engine operated continuously at top speed. One important reason why an airplane engine is so short lived is that it is nearly always worked at maximum speed. Of course, automobile engines are built to be driven hard, but the owner ought to realize what the result will be.

Operating an engine for long periods, with wide open throttle, and excessively slowed down, for instance in severe hill climbing, is usage which shortens its service period and before it has slowed down very low, with "gas" fully on, and certainly before it begins to "labour," a lower gear should be engaged. In a general way, demanding the utmost of speed or pulling power from an engine, reduces the total service it can render. Running with the spark too far advanced, especially with open throttle, should be carefully avoided, as it causes excessive bearing wear and operating an engine, after it has become so heavily carbonized that it self-ignites its charges, producing the effects of over-advanced ignition, is detrimental to the same reason.

"Stepping on the throttle," when a car is running slowly on high gear, in order to accelerate rapidly, is not in the interest of engine durability, especially if spark position is not carefully regulated. It is much easier upon the engine to open the throttle gradually and still better to engage a lower gear and accelerate on this, if the car has been greatly slowed down. Many engines shake badly above a certain speed or have certain speeds at which they vibrate worse than at others and their operation at such speeds is to be avoided if long, uninterrupted service is the end sought.

## FREEING "STUCK" ENGINE



W. E. R. writes: Not having used my Ford car for a long time, I find the engine is stuck and can not be turned over. Will heating the cylinders very hot, by means of boiling water, free the pistons, or shall I have to take the engine apart?

Answer—We suggest that you try the following: Squirt a small quantity of gasoline into each cylinder, through the spark-plug opening and give it a little time to work down around the pistons and rings, then put the car into high gear, jack up one rear wheel and try turning it backward and forward by hand. By applying considerable power in this manner, first in one direction and then in the other, the piston should break away from the cylinder walls and the engine become free. As soon as this has been accomplished and before starting the engine under power, light cylinder oil should be supplied each cylinder through the plug opening. The hot water treatment you suggest would thin the oil if it were simply cold, but might not help matters if it were badly gummed. Don't try to heat the cylinders too fast, if they are very cold to start with.

## KNOCK HARD TO DIAGNOSE



H. R. writes: My engine knocks at speeds around 25 to 30 m. p. h. when the spark is advanced, but ceases to knock when it is retarded or when the gas is shut off suddenly, but it does not knock at speeds from 15 to 20 m. p. h. although the spark is advanced. It has recently been thoroughly overhauled. Please tell me if it is anything serious or too late, or what you think the trouble is.

Answer—We hardly think that the timing is too early, as the knocking would then be worse at low than at high speed. We can not tell you definitely the cause of this knock, but it is doubtless due to some mechanical defect in the engine, just what we do not know. The reason why it ceases when the spark is retarded is doubtless because the force that produces it is then lessened. Are you sure that the center bearing of the crankshaft is tight? Looseness there sometimes causes knocking with increased speed. There is probably some looseness somewhere, possibly in the pistons or wristpins, that shows up as the engine is speeded up under load.

## DANGER FROM MUFFLER EXPLOSIONS.



H. G. A. asks: Is there any danger from the explosion of gas in the muffler, in case the engine is used as a brake in descending hills, with the spark out off?

Answer—There is, of course, some danger that muffler explosions will oc-

the ignition on, as then the amount of unburned gas entering the muffler will be limited to that due to occasionally missed explosions, which sometimes occur when an engine is throttled away down and forced to turn over faster than it would under its own power.

## ARE VALVES ADJUSTED TOO TIGHTLY?

T. W. writes: After reading all the valves of my engine to have a clearance of .005 in., according to the instruction book, I find that when I try to make the car pick up speed, after having been slowed down, the engine

makes a thumping or knocking sound, as if it were laboring. May it be that the valves are set too close?

Answer—The valves are not set too closely if the pushrod of each can be rotated by the fingers, when its valve is in the closed position—the test to be made when the engine is hot. That is, if there is still clearance when the parts are hot, the adjustment is not too close. Quite likely the thumping that you hear is due to explosions that are missed as a result of the intake manifold becoming "roaded" with gasoline, while the throttle is nearly closed and an over-rich mixture this being produced. This condition in connection with slight looseness of the moving parts, will produce knocking.

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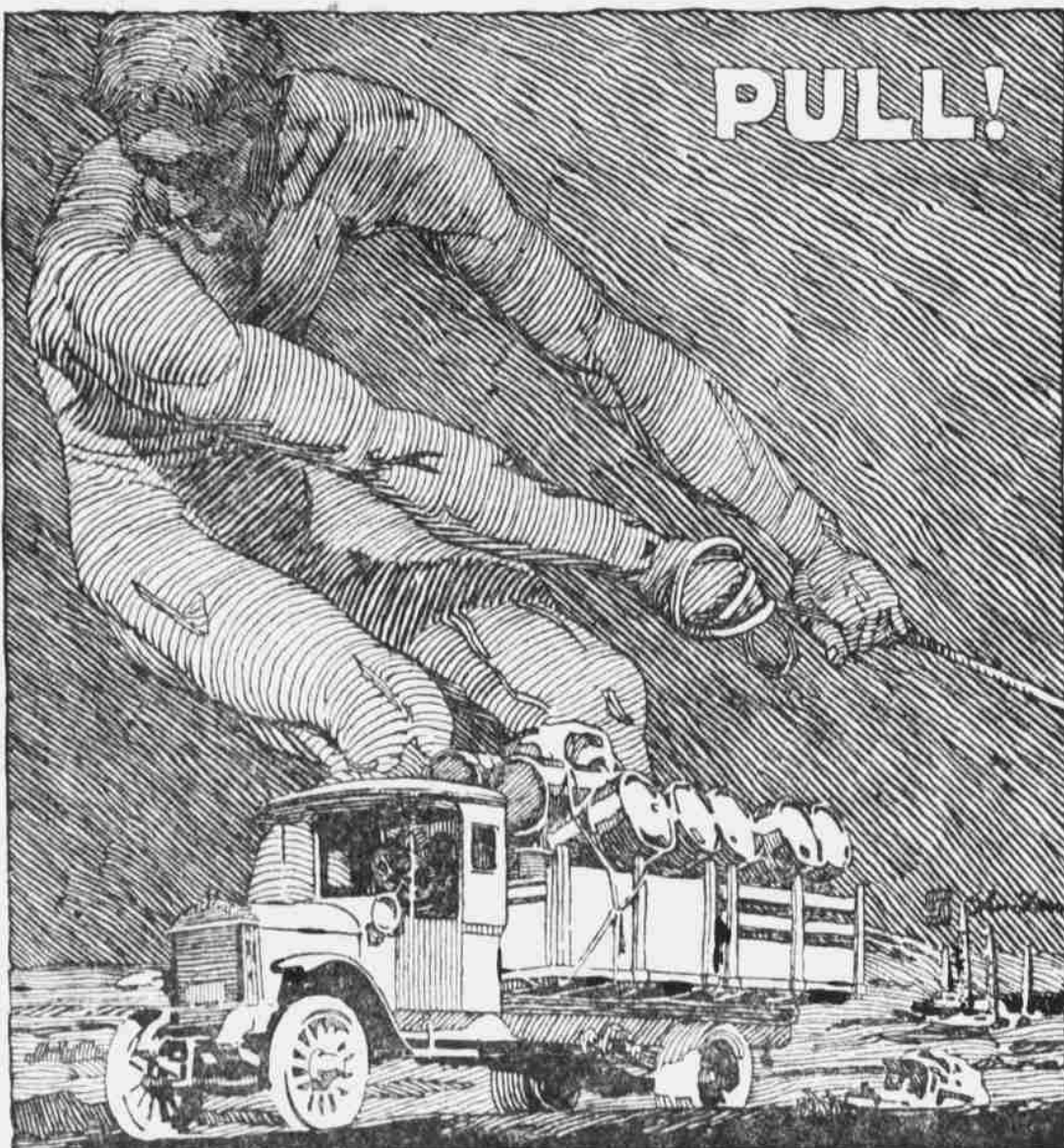
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The "code of ethics" adopted by the Memphis Automobile Dealers' association, is being taken up and reproduced all over the country. Various publica-

tions have from time to time commented on its forceful business message, and have reproduced it in its entirety. The latest is "The Business Philosopher," published in Chicago, a magazine with a national circulation. It is the eleventh periodical to reproduce the "code" and, like its predecessors, did so voluntarily.

The work of the Drama League has been endorsed by John Drinkwater, Daniel Froman, Rupert Hughes, Arthur Hopkins, Josephine Preston Peabody, Laurence Housman, Robert Edmond Jones, James Forbes, Stuart Walker and Walter Hampden. The endorsements were given to aid the league's endowment fund.

Joe Smith is rearranging all the new musical and dance numbers in "The Magic Melody."

## APPLY FOR CHARTER.

Application to amend the charter of the Erwin-Hicks Motor Car company, so as to increase the capital stock from \$70,000 to \$100,000, has been filed with the county register.

Ridley Wells succeeded Joe Jackson as assistant to Louis V. De Foe, dramatic editor of the World.

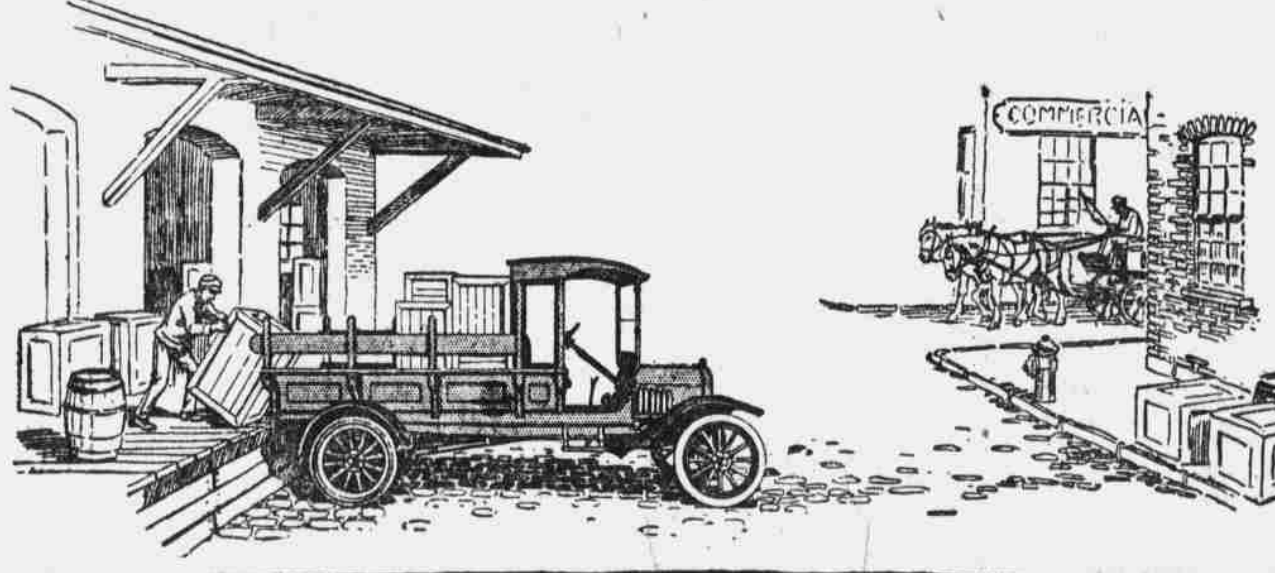
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